

COURSE OUTLINE OF RECORD

Dept., Number	CSC 3355	Course Title	Principles of Data Base Management
Semester Hours	3		
Year	2006	URL (if any):	

Current Catalog Description:

This course covers concepts of logical and physical data structures, data security and accuracy. It includes an overview of basic approaches to database organization and implementation and hands-on interaction with at least one hierarchical, network or relational model database. Prerequisites: CSC 2331.

Textbook:

1. Peter Rob, Carlos Coronel (2004). Database Systems: Design, Implementation & Management. 6th Edition. Course Technology

References:

1. Raghu Ramakrishnan, Johannes Gehrke (2002). Database Management Systems. Third Edition. McGraw Hill, ISBN 0-07-115110-9
2. Carolyn Begg, Database Systems : A Practical Approach to Design, Implementation, and Management, Addison Wesley, ISBN 0321294017
3. Microsoft Access Tutorials (by M. Brydon) available (free of charge) on-line in three formats: as (a) a series of PDF files; (b) a self-contained package; and (c) a print-only version.

Course Goals:

1. To develop competence in Database Design.
2. To provide experience in database processing using a query language.

Prerequisites by Topic:

1. Experience with some programming language and knowledge of basic data structures.
2. Familiarity with the general characteristics of modern computing equipment.

Major Topics Covered in the Course (number of weeks):

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| 1. Overview of Database Systems (Chap 1) | 0.5 |
| 2. Logical database design: Entity Relationship Model(Chap 2) | 1 |
| 3. The Relational Model (Chap 3) | 1 |
| 4. Relational Algebra and Calculus (Chap 4) | 1 |
| 5. ACCESS Lab | 1 |
| 6. SQL: Queries, Programming (Chap 5) | 1 |
| 7. SQL lab | 1 |
| 8. Database Application Development | 1 |
| 9. Internet Applications | 1 |
| 10. Schema Refinement and Normal Forms (Chap 15) | 2 |
| 11. Overview of Transaction Management (Chap 18) | 1 |
| 12. SQL Server Lab | 1 |
| 13. Advanced Topics, Revision, Project Presentations | 1 |
| 14. Ethical Issues Related to Database Management | 0.5 |

Laboratory Projects:

1. Database project using MICROSOFT ACCESS.
2. Database project using MICROSOFT SQL Server.

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Estimate Curriculum Category Content (Semester hours)

Area	Core	Advanced	Area	Core	Advanced
Algorithms			Data Structures	1	
Software Design	1		Prog. Languages	1	
Comp. Arch.					

Oral and Written Communication:

Every student is required to submit one written report of typically 2-5 pages and to make one oral presentation of typically 15 minutes duration.

Social and Ethical Issues:

Ethical issues related to database management (1.5 hour discussion).

The students are graded on their understanding of these topics according to their participation in the discussion.

Theoretical Content:

1. The relational model, including relational calculus and relational algebra: 6 hours.
2. Normalization - 6 hours.

Problem Analysis:

The design experiences in this course are related to creating relations and queries to solve particular problems.